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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,471	01/31/2002	Erik M. Schmauser	11981/1C	3540

26646 7590 09/17/2003

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EXAMINER

FRISTOE JR, JOHN K

ART UNIT PAPER NUMBER

3754

DATE MAILED: 09/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,471

Applicant(s)

SCHMAUSER ET AL.

Examiner

John K. Fristoe Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,11,13-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 3,4,6-10,12 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to the examiner if "another sealing element" recited in claim 16 is a different element or if it is the already established "another sealing element" recited in claim 15.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 11, 13-15, 16 as far as it is definite, 17, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,450,204 (Itzhaky) in view of U.S. Pat. No. 3,588,552 (Schafft). Itzhaky discloses a piezoelectrically actuated valve comprising a piezoelectric actuator comprising a bending transducer (7, fig. 3) having a first transducer end (7a), a second transducer end (7b) to be moveable in a longitudinal direction, the second transducer end (7b) being situated opposite (fig. 3) the first transducer end (7a), and wherein the first transducer end (7a) is configured as a connection end of the transducer so that the connection end is connectable to an electrical voltage source (col. 4, lines 8-12) to activate the bending transducer (7). The valve further comprising at least one valve channel (4), the at least one valve channel being configured to be closed with a sealing element (14b) and being configured supportable by the transducer (7), a valve housing (2), a first housing groove (fig. 3,

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where connection 7a is in the housing) that at least partially surrounds on a first peripheral side of the transducer (fig. 3), a second housing groove (fig. 3, where connection 7b is in the housing), the second transducer (7b) end being guided so that the second transducer end is moveable in a longitudinal transducer direction in the second housing groove (fig. 3), wherein the bending transducer (7) is concavely bent (fig. 3) in the direction of the first valve channel (4), a second valve channel (5), wherein another sealing element (14) is situated in a middle region of the transducer (7), the another sealing element (14) being effective on both sides of the middle region of the transducer (7), wherein the another sealing element (14) includes at least one sealing convexity (14a, 14b) directed at at least one of the first valve channel (4) or the second valve channel (5), and a method of manufacturing the above bending transducer comprising the steps of providing an electrically conductive carrier layer, the carrier layer being a flat sheet metal strip, adhering a piezoceramic layer to the electrically conductive carrier layer, and prestressing the electrically conductive carrier layer with the piezoceramic layer along a longitudinal transducer direction by heating and subsequent cooling (col. 2, lines 61-67- col. 3, lines 1-5) but lacks a cylindrical transducer placed at the end of the bender actuator.

Schafft teaches the use of a piezoelectric bender actuator having a cylindrical transducer (13) placed at the end of the bending actuator (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the piezoelectric valve of Itzhaky by changing the clamping connection (7a) of the bending transducer to a cylindrical connection as taught by Schafft in order reduce the stress on the bender where the bender is connected to the housing.

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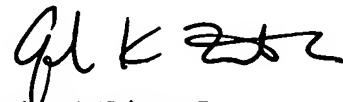
Allowable Subject Matter

4. Claims 3, 4, 6-10, 12, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Fristoe Jr. whose telephone number is (703) 308-1437. The examiner can normally be reached on Monday-Friday, 7: 00 a.m-4: 30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Louis G. Mancene can be reached on (703) 308-2696. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


John K. Fristoe Jr.
Examiner
Art Unit 3754

JKF


EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
GROUP 3700
9/16/03